

new species resembled *H. Gouldi*, but with seventeen and nineteen rows of scales where the other had fifteen. The true "Black Snake," *Pseudechys porphyraicus*, as well as the Murray, Brown, *Pseudechys* were exhibited, and their characters discussed. Only one species of *Diemisia*, the *D. reticulata*, was noticed; it was common in the Murray district.

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ART. V.—*On the Structure of the Flower of the Mignonette.*  
By THOMAS S. RALPH, Esq., M.R.C.S.

[Read 8th July, 1861.]

The flower of the Mignonette is remarkable for the curious one-sided appearance it presents when viewed on the supporting flower-stalk. A closer examination shows us that the centre of it, or ovary (the seed-bearing part), is really on one side, and if we denude the flower of all its parts, save the stamens, we find this appearance is due to the stamens and ovary being placed on a thickened scale or part, termed *disk*, which is itself on one side.

Outside of this thick green pad or scale, we find similar large green scales, like bodies fringed with white fringes, and to the eye of the observer appearing to answer to the character of petals. Of these organs, there are four plainly seen, two being larger; there are, however, two more minute ones, each furnished with only one strap-like fringe, and placed hidden away under the bundle of stamens. All these parts are in turn surrounded by six sepals, which together constitute the calyx or flower cup.

Dr. Lindley, in his work entitled "Vegetable Kingdom," thus describes the flower:—"Calyx, many parted; petals, broad plates having lacerated appendages at the back, unequal; *disk* (hypogynous) one sided, glandular; stamens, definite, inserted into the disk, &c; ovary, sessile, three lobed." (Page 356.) "The flowers," he says, "of these plants, of which the common mignonette may be taken as a type, differ in many respects from those of other orders, especially in the presence of a very large glandular one-sided plate, out of which the stamens grow, and in the petals bearing a great resemblance to that disk. This led me in the *Collectanea Botanica*, and in the first edition of this work, to describe the structure of the Weldworts as con-

sisting of an apparent calyx, which was really an *involuere*, while the petals are abortive *staminiferous flowers*, and the disk a calyx of one central bisexual flower. I am, however, now convinced by the arguments of Henslow, that this theory was erroneous, and I accordingly revert to the old view of the organization and affinities of the order."

It is to this particular view of the subject I now wish to direct attention. If we take almost any kind of anther fully developed, and making a section of it, examine it under the microscope, we find in it the usual structures, namely, pollen grains, and also a number of fibre cells, which appear to be serviceable in rupturing the anther, or ejecting the pollen when the anther has opened. Now, on examining any of the white petal-like fringes of the Mignonette in the same way (having discolored them), we find each contains a bundle of spiral vessels which run up the petal, or lobe, or fringe, call it what we please, and, at its termination, this bundle is developed into a number of fibre cells, closely resembling those usually met with in anther cells, but which is a very remarkable structure to be found in a true petal. This unusual development of fibre cells in a petal leads me to suggest that each strap-like, petal-like part, or lacerated portion of the so-called petals, is, in reality, an undeveloped stamen, and that the original idea of Dr. Lindley is the correct one, *i.e.*, that each petal is an abortive stameniferous flower; so that, thus in all, we have six sets of stamens bearing flowers, undeveloped in one flower of the Mignonette, the disc-like scale accompanying each petal-like body, and one perfect or bisexual flower, in the portion consisting of the large scale, supporting the true stamens and ovary, but which flower is destitute of petals, not an unusual kind of flower botanically considered.

If we cannot admit this view of the case, then we have the following difficulties. First, the unusual presence of the fibre cells in the petals must go for nothing; next, if these cells are to be admitted as indicative of the true nature of these parts, *i.e.*, that they are undeveloped bundles of stamens only, and analagous to the bundle of stamens immediately surrounding the ovary, and known as true stamens, but not flowers, then I answer we have one other difficulty—that each bundle of undeveloped stamens is seen to spring from the back of each scale in a reverse direction to that taken by the true stamens in relation to their particular glandular scale. For my part, I am inclined to favour the

old view as stated by Dr. Lindley, and that the presence of the fibre-cells bears me out in it. Added to this, we have usually a six or seven-lobed involucre, which would represent the bracts due to each flower, taking the central one as a perfect pattern. I have examined the flowers of another species of *Reseda*, the *R. fruticaulis*; I find the glandular bodies supporting the petals are not nearly so large as in the common *Mignonette*, but each fringe has a small number of fibro-cells developed in it. That these fleshy glandular parts have been noticed and compared with the central one of the flower is well known, but no explanation has ever been offered save by Dr. L. and now by myself. He again says, when speaking of the part termed *disk*, "It is an opinion, which daily gains ground, that the disk is really only a rudimentary state of the stamens, and it is thought that the proofs of the correctness of this hypothesis are to be found in the frequent separation of the cup-like disk into bodies alternating with true stamens, as in *Gesneria*, and in *Parnassia*, in the resemblance to bundles of polyadelphous stamens."

I trust, therefore, the view I have revived and attempted to illustrate, will not be deemed untenable; as also in a paper I lately brought forward, I instanced the Plantain of Europe developing its ovules into leaves, and in some specimens into true flowers, each case serving to show us that any part of a flower may be developed into a different kind of organ than that predicated by its position in the particular flower.

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ART. VI.—*On the Coccus affecting the Orange.* By THOMAS S. RALPH, Esq., M.R.C.S., and Assoc. Linn. Soc. Lond.

[Read 19th August, 1861.]

The chief object I had in view in bringing before the Society some observations on the insect which attacks the fruit of the Orange, was to direct the attention of microscopists and others to the study of one of those forms of insect life, which present many favourable opportunities for a series of observations bearing on the structure of the *Coccus* family generally; and perhaps these observations might be attended with advantage to others, by directing their attention against the probable results which may follow from the attacks of this insect upon the Orange, as an article